Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application.

1. (currently amended) A method for discovery of cooperating nodes in a network of nodes in which each cooperating node has information about at least one other cooperating node, comprising the steps of:

(a) randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, a second node;

(b) transmitting from the first node to the second node at least a portion of the cooperating node information available to the first node;

(c) periodically repeating steps (a) and (b);

wherein the ~~method facilitates~~ discovery of all cooperating nodes in the network of nodes is within a number of repetitions that is a constant multiplied by ~~proportional to~~ the square of the logarithm of the number of cooperating nodes.

2. (original) The method of claim 1 wherein step (a) comprises randomly choosing by a first node, from cooperating node information available to the first node, a second node.

3. (original) The method of claim 1 wherein step (a) comprises pseudo-randomly choosing by a first node, from cooperating node information available to the first node, a second node.

4. (canceled)

5. (previously presented) The method of claim 1 wherein step (a) comprises randomly or pseudorandomly choosing by a first node, from cooperating node information stored in the first node, one second node.

6. (original) The method of claim 1 wherein step (b) further comprises transmitting from the first node to the second node at least a portion of the cooperating node information available to the first node, said cooperating node information comprising a list of cooperating nodes and resources available at each cooperating node.

7. (original) The method of claim l wherein step (b) comprises transmitting from the first node to the second node at least a portion of the cooperating node information available to the first node, said at least a portion of the cooperating node information comprising all of the first node's cooperating node information.

8. (original) The method of claim 1 wherein step (c) comprises periodically repeating steps (a) and (b) by each of the cooperating nodes.

9. (presently presented) The method of claim 1 wherein:

step (a) comprises randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, a second cooperating node and a third cooperating node; and

step (b) comprises transmitting from the first node to the second node and the third node the cooperating information available to the first node.

10. (presently presented) The method of claim 1 wherein:

step (a) comprises randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, three cooperating nodes; and

step (b) comprises transmitting from the first node three cooperating nodes the cooperating information available to the first node.

11. (original) The method of claim 1 further comprising, after step (b) and prior to step (c), the steps of:

(b1) merging, by the second node, the cooperating node information transmitted by the first node with cooperating node information available to the second node;

and wherein step (c) comprises periodically repeating steps (a), (b), and (b 1).

12. (original) The method of claim 1 further comprising, after step (b) and prior to step (c), the steps of:

(b1) requesting, by the first node, from the second node, at least a portion of the cooperating node information available to the second node;

(b2) receiving, by the first node, from the second node, at least a portion of the cooperating node information available to the second node;

and wherein step (c) comprises periodically repeating steps (a), (b), (b1), d (b2).

13. (original) The method of claim 1 further comprising, after step (b) and prior to step (c), the steps of:

(b1) merging, by the second node, the cooperating node information transmitted by the first node with cooperating node information available to the second node;

(b2) requesting, by the first node, from the selected cooperating node, at least a portion of the cooperating node information available to the second node;

(b3) receiving, by the first node, from the selected cooperating node, at least a portion of the cooperating node information available to the second node;

(b4) merging, by the first node, the cooperating node information transmitted by the second node with cooperating node information available to the first node;

and wherein step (c) comprises periodically repeating steps (a), (b), (b 1), (b2), (b3), and (b4).

14. (currently amended) A system of cooperating nodes in which each cooperating node can discover information about the other cooperating nodes, comprising network nodes, wherein each of the said network nodes comprises:

a selector for randomly or pseudorandomly selecting, from cooperating node information available to the node, a second node;

a transmitter for transmitting from the first node to the second node at least a portion of the cooperating node information available to the first node; and

a timer control for periodically triggering the selector and the transmitter;

wherein ~~the system facilitates~~ discovery by each cooperating node of all cooperating nodes in the network of nodes is within a number of triggerings that is a contstant multiplied by ~~proportional to~~ the square of the logarithm of the number of cooperating nodes.

15. (currently amended) A method for discovery of cooperating nodes in a network of nodes in which each cooperating node has information about at least one other cooperating node, comprising the steps of:

(a) randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, a second cooperating node;

(b) requesting, by the first node, from the second node, at least a portion of the cooperating node information available to the second node;

(c) receiving, by the first node, from the second node, at least a portion of the cooperating node information available to the second node;

(d) periodically repeating steps (a), (b), and (c);

wherein ~~the method facilitates~~ discovery of all cooperating nodes in the network of nodes is within a number of repetitions that is ~~proportional to~~ a constant multiplied by the square of the logarithm of the number of cooperating nodes.

16. (original) The method of claim 15 wherein step (a) comprises randomly choosing by a first node, from cooperating node information available to the first node, a second cooperating node.

17. (original) The method of claim 15 wherein step (a) comprises pseudo-randomly choosing by a first node, from cooperating node information available to the first node, a second node.

18. (canceled)

19. (previously presented) The method of claim 15 wherein step (a) comprises randomly or pseudorandomly choosing by a first node, from cooperating node information stored in the first node, one cooperating node.

20. (original) The method of claim 15 wherein step (b) further comprises requesting, by the first node, from the second node, at least a portion of the cooperating node information available to the second node, said cooperating node information comprising a list of cooperating nodes and resources available at each cooperating node.

21. (original) The method of claim 15 wherein step (b) comprises requesting, by the first node, from the second node, at least a portion of the cooperating node information available to the second node, said at least a portion of the cooperating node information comprising all of the second node's cooperating node information.

22. (original) The method of claim 15 wherein step (d) comprises periodically repeating steps (a), (b), and (c) by each of the cooperating nodes.

23. (previously presented) The method of claim 15 wherein:

step (a) comprises randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, a second cooperating node and a third cooperating node;

step (b) comprises requesting, by the first node, from each of the two selected cooperating nodes, at least a portion of the cooperating node information available to each of the respective second node and third node;

step (c) comprises receiving, by the first node, from each of the second node and the third node, at least a portion of the cooperating node information available to each of the second node and the third node.

24. (previously presented) The method of claim 15 wherein:

step (a) comprises randomly or pseudorandomly selecting, by a first node, from cooperating node information available to the first node, three cooperating nodes;

step (b) comprises requesting, by the first node, from each of the three selected cooperating nodes, at least a portion of the cooperating node information available to each of the respective selected cooperating nodes;

step (c) comprises receiving, by the first node, from each of the three selected cooperating nodes, at least a portion of the cooperating node information available to each of the respective selected cooperating nodes.

25. (previously presented) The method of claim 15 further comprising, after step (c) and prior to step (d), the step of:

(c 1) merging, by the first node, the received cooperating node information with cooperating node information available to the first node;

and wherein step (c) comprises periodically repeating steps (a), (b), (cl) and (c).

26. (original) The method of claim 15, further comprising, before step (d) the step of:

(aa) transmitting from the first node to the second node, at least a portion of the cooperating node information available to the first node;

and wherein step (d) comprises periodically repeating steps (aa), (a), (b), and (c).

27. (previously presented) The method of claim 26 further comprising, after step (aa), the step of:

(bb) merging, by the second node, the cooperating node information transmitted by the first node with cooperating node information available to the second node;

and wherein step (d) comprises periodically repeating steps (aa), (bb), (a), (b) and (c).